

Work Order ID 61449

Wednesday, August 25, 2010 10:33:31 AM

Page 1

Item ID: D206-667-203TRN

Accept

Setup Start

Revision ID:

Stop

Item Name: Crosstube Turning Detail

Start Date: 8/25/2010 Start Qty: 1.00

Cust Item ID:

Required Date: 9/1/2010 Req'd Qty: 1.00

Customer:

Reference:

Approvals: Process Plan: Date: 10-8-25 Tooling: Date:
QC: Date: SPC (Y/N): Date:

Run Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D206-667-243	Rev C								

100

0.00



Mori Seiki

MORI SEIKI CNC LATHE LARGE

Memo

0.00

aml 10/08/29

Mori Seiki CNC Lathe Large

1-Fill tube with sand & install plugs DT8534 on both ends as per Folio
FA089□2-Turn first side as per Folio FA089□3-File down transition lines
smooth.

1 0

110

0.00



QC

QC1- Inspect dimensions to dimension sheet

Memo

0.00

aml 10/08/29

Quality Control

1 0

120

0.00



Mori Seiki

MORI SEIKI CNC LATHE LARGE

Memo

0.00

aml 10/08/29

Mori Seiki CNC Lathe Large

1-Turn second side as per Folio FA089□2-File down transition lines smooth.
□
3-Remove sand and plugs□4-Scrib part# and batch #

1 0

W/O:		WORK ORDER CHANGES					
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

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Run Start

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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130	QC1- Inspect dimensions to dimension sheet	0.00							
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QC	Memo	0.00				1	0		
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Quality Control

140	QC8- Inspect parts - second check	0.00							
-----	-----------------------------------	------	--	--	--	--	--	--	--



QC	Memo	0.00							
----	------	------	--	--	--	--	--	--	--

Quality Control

150	Crosstubes Chemical Conversion	0.00							
-----	--------------------------------	------	--	--	--	--	--	--	--



HandFXtube	Memo	0.00							
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Hand Finishing Crosstubes



10-8-30

W/O:		WORK ORDER CHANGES					
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Page 3

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Cust Item ID:

Required Date: 9/1/2010 Req'd Qty: 1.00

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

(IX) Q MB 10-08-30

170

Packaging

0.00



Packaging

Memo

0.00

Packaging

Identify and Stock in kanban rack Location: X-tube cel

(IX) Q MB 10-08-30

180

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

10/08/30 JJ
C21018130

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Picklist Print

Wednesday, August 25, 2010 10:33:37 AM

Page 1

Work Order ID: 61449



Parent Item: D206-667-203TRN



Parent Item Name: Crosstube Turning Detail

Start Date: 8/25/2010

Required Date: 9/1/2010

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:A 08-03-06 new issue DD verified by:ec
 IPP Rev B 08.04.02 Removed polish EC verified by: DD
 IPP Rev C 09.01.06 ECN 08-562 EC verified by:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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D6004-115		Manufactured	No			100	Each	62.0000	1	1			
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Crosstube Material

Location

Loc Qty

Loc Code

LG

62

34685

17

~~3~~34774

9

38336

36

 1 *amt 10/08/28*

W/O:		WORK ORDER CHANGES					
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NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order: <u>61149</u>
Description: Crosstube Assembly		Part Number: D206-667-243
Inspection Dwg: D206-667-243 Rev: B		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ **First Article**
☐ **Prototype**

Inspection Sheet Drawing Dimension		Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	2.490	+0.005/-0.000	2.490	✓		Vern	ML-7
	2.018	+0.005/-0.000	2.019	✓		"	"
	2.079	+0.005/-0.000	2.084	✓		"	"
	2.145	+0.005/-0.000	2.150	✓		"	"
	2.209	+0.005/-0.000	2.214	✓		"	"
	2.287	+0.005/-0.000	2.292	✓		"	"
	2.363	+0.005/-0.000	2.368	✓		"	"
	2.433	+0.005/-0.000	2.438	✓		"	"
	0.200	+/-0.010	.200	✓		"	"
	0.500 x 30°	+/-0.010	.500x30°	✓		ic	"
	R0.063	+/-0.010	R.063	✓		R-G	N/A
	R0.500	+/-0.010	R.500	✓		R-G	N/A
	4.438	+/-0.030	4.439	✓		Vern	ML-7
SIDE B	104.91	+/-0.020	104.930	✓		M-tape	ML-2
	2.490	+0.005/-0.000	2.490	✓		Vern	ML-7
	2.018	+0.005/-0.000	2.020	✓		"	"
	2.079	+0.005/-0.000	2.083	✓		"	"
	2.145	+0.005/-0.000	2.150	✓		"	"
	2.209	+0.005/-0.000	2.214	✓		"	"
	2.287	+0.005/-0.000	2.292	✓		"	"
	2.363	+0.005/-0.000	2.368	✓		"	"
	2.433	+0.005/-0.000	2.438	✓		"	"
	0.200	+/-0.010	.200	✓		"	"
	0.500 x 30°	+/-0.010	.500x30°	✓		"	"
	R0.063	+/-0.010	R.063	✓		R-G	N/A
	R0.500	+/-0.010	R.500	✓		R-G	N/A
	4.438	+/-0.030	4.438	✓		Vern	ML-7

Measured by: <u>[Signature]</u>	Audited by: <u>MB</u>	Prototype Approval:	N/A
Date: <u>10/08/29</u>	Date: <u>10-08-30</u>	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	06.09.01	New Issue (P/O D206-667-203)	KJ/JLM	<u>[Signature]</u>

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Item	Qty -243	Part Number	Description
1	X	D206-667-243	CROSSTUBE ASSEMBLY (206L HIGH AFT)
2	1	D6004-115	CROSSTUBE
3	2	D2873-043	NUT PLATE
4	2	D2873-045	NUT PLATE
5	2	D2892-1	SUPPORT
6	4	D3595-063-450	RUBBER CUSHION
7	4	MS21920-22	CLAMP
8	14	MS20601AD4W10	RIVET (OR NAS9302B-4-10)
9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (EXTRON/BELL SPEC. 299- 947-100, TYPE II, CLASS 2 ADHESIVE)

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6004-115
FINISHED LENGTH = 104.91±0.020
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D206-667-243" AND BATCH NUMBER ON
INSIDE OF CUFF USING VIBRATING STYLUS.
- 7) WEIGHT: 21.9 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART WHERE INDICATED. BLEND OUT EDGE LONGITUDINALLY,
TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE
TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2892-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER
QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-22 CLAMPS WITH D3595-063-450 RUBBER CUSHIONS TO SECURE THE
D2892-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMP MECHANISMS ARE
LOCATED ON CROSSTUBE SUPPORTS.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE
OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS
SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT
LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS ARE SHOWING IN
SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

SHOWN COPY
RETURNED
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 61749

BS10-8-25

RELEASED
6/11/17

C	REVISE GENERAL NOTES/PART LIST (ZN D7-1); REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS. D3595-063-450 WAS D2856-400-773 (ZN D6-2 & A5-2); REMOVED REF. & ADD TOLERANCES (ZN 4-3, C5-3, D3-3); RELOCATED FLAG #6 (ZN A8-3) PER NCR 210; MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4.	RF	08.11.06
B	ADD HOLES AND NUT PLATES FOR COMPATABILITY WITH BHT/AA SKUDTUBES	PH	05.07.26
A	NEW ISSUE	CP	00.11.17
REV.	DESCRIPTION	BY	DATE
DESIGN	<i>JP</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	<i>JP</i>	DRAWING NO.	REV. C
MFG. APPR.	<i>JP</i>	D206-667-243	SHEET 1 OF 4
APPROVED	<i>JP</i>	TITLE	SCALE
DE APPR.	<i>JP</i>	CROSSTUBE ASSY (206L HIGH AFT)	NTS
DATE	08.11.06	COPYRIGHT © 2000 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

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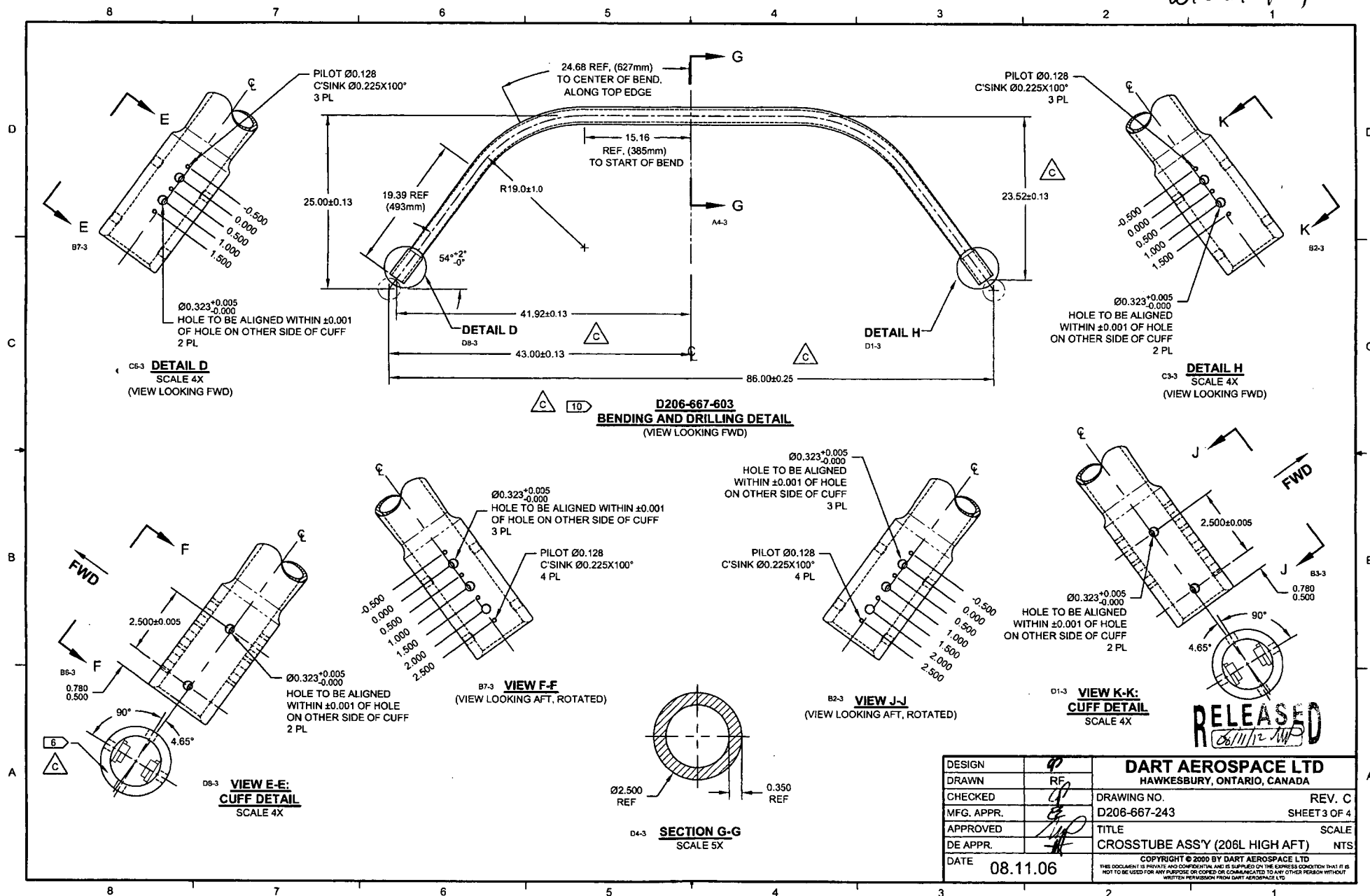
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w/0661449



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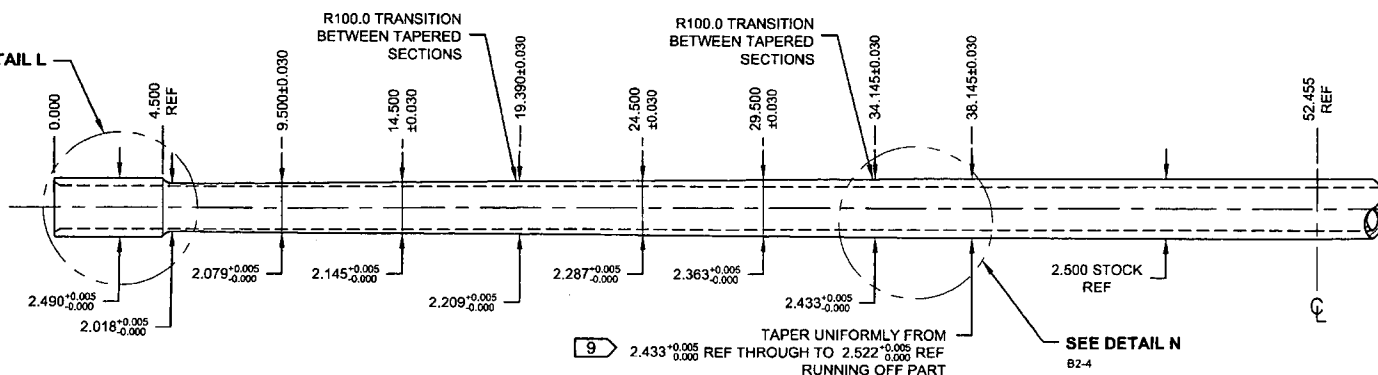
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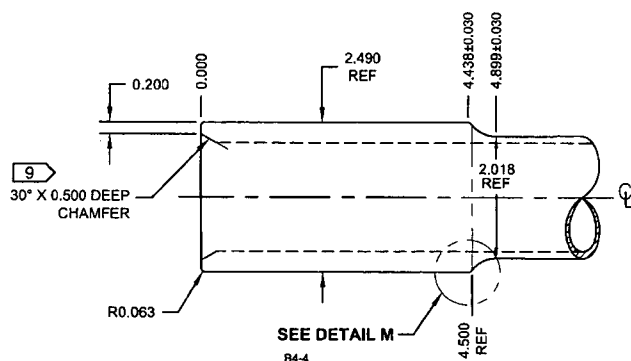
NOTE: Date & initial all entries

W1061449

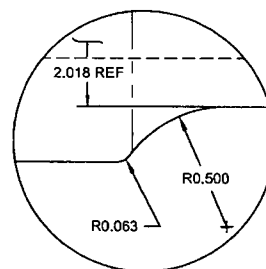
SEE DETAIL L
B7-4



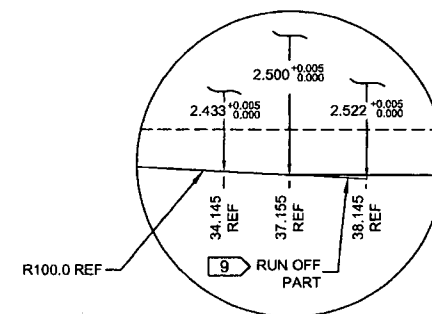
TURNING DETAIL



DETAIL L: CROSSTUBE CUFF
NOT TO SCALE



DETAIL M: CUFF TRANSITION
NOT TO SCALE



DETAIL N: TAPER RUN-OFF
NOT TO SCALE

RELEASED
08/11/06

DESIGN	9	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF	DRAWING NO.	REV. C
CHECKED	RF	D206-667-243	SHEET 4 OF 4
MFG. APPR.		TITLE	SCALE
APPROVED		CROSSTUBE ASS'Y (206L HIGH AFT)	NTS
DE APPR.		COPYRIGHT © 2000 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
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